

(4) Methane monitors shall be maintained in permissible and proper operating condition and shall be calibrated with a known air-methane mixture at least once every 31 days. To assure that methane monitors are properly maintained and calibrated, the operator shall:

(i) Use persons properly trained in the maintenance, calibration, and permissibility of methane monitors to calibrate and maintain the devices.

(ii) Maintain a record of all calibration tests of methane monitors. Records shall be maintained in a secure book that is not susceptible to alteration or electronically in a computer system so as to be secure and not susceptible to alteration.

(iii) Retain the record of calibration tests for 1 year from the date of the test. Records shall be retained at a surface location at the mine and made available for inspection by authorized representatives of the Secretary and the representative of miners.

(b)(1) When the methane concentration at any methane monitor reaches 1.0 percent the monitor shall give a warning signal.

(2) The warning signal device of the methane monitor shall be visible to a person who can deenergize electric equipment or shut down diesel-powered equipment on which the monitor is mounted.

(c) The methane monitor shall automatically deenergize electric equipment or shut down diesel-powered equipment on which it is mounted when—

(1) The methane concentration at any methane monitor reaches 2.0 percent; or

(2) The monitor is not operating properly.

[61 FR 9829, Mar. 11, 1996, as amended at 61 FR 55527, Oct. 25, 1996]

#### § 75.343 Underground shops.

(a) Underground shops shall be equipped with an automatic fire suppression system meeting the requirements of § 75.1107-3 through § 75.1107-16, or be enclosed in a noncombustible structure or area.

(b) Underground shops shall be ventilated with intake air that is coursed directly into a return air course.

#### § 75.344 Compressors.

(a) Except compressors that are components of equipment such as locomotives and rock dusting machines and compressors of less than 5 horsepower, electrical compressors including those that may start automatically shall be:

(1) Continuously attended by a person designated by the operator who can see the compressor at all times during its operation. Any designated person attending the compressor shall be capable of activating the fire suppression system and deenergizing or shutting-off the compressor in the event of a fire; or,

(2) Enclosed in a noncombustible structure or area which is ventilated by intake air coursed directly into a return air course or to the surface and equipped with sensors to monitor for heat and for carbon monoxide or smoke. The sensors shall deenergize power to the compressor, activate a visual and audible alarm located outside of and on the intake side of the enclosure, and activate doors to automatically enclose the noncombustible structure or area when either of the following occurs:

(i) The temperature in the noncombustible structure or area reaches 165 °F.

(ii) The carbon monoxide concentration reaches 10 parts per million above the ambient level for the area, or the optical density of smoke reaches 0.022 per meter. At least once every 31 days, sensors installed to monitor for carbon monoxide shall be calibrated with a known concentration of carbon monoxide and air sufficient to activate the closing door, and each smoke sensor shall be tested to determine that it functions correctly.

(b) Compressors, except those exempted in paragraph (a), shall be equipped with a heat activated fire suppression system meeting the requirements of 75.1107-3 through 75.1107-16.

(c) Two portable fire extinguishers or one extinguisher having at least twice the minimum capacity specified for a portable fire extinguisher in § 75.1100-1(e) shall be provided for each compressor.

(d) Notwithstanding the requirements of § 75.1107-4, upon activation of any fire suppression system used under

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paragraph (b) of this section, the compressor shall be automatically deenergized or automatically shut off.

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### § 75.350 Air courses and belt haulage entries.

In any coal mine opened after March 30, 1970, the entries used as intake and return air courses shall be separated from belt haulage entries, and each operator of such mine shall limit the velocity of the air coursed through belt haulage entries to the amount necessary to provide an adequate supply of oxygen in such entries, and to insure that the air therein shall contain less than 1.0 volume per centum of methane, and such air shall not be used to ventilate active working places. Whenever an authorized representative of the Secretary finds, in the case of any coal mine opened on or prior to March 30, 1970, that has been developed with more than two entries, that the conditions in the entries, other than belt haulage entries, are such as to permit adequately the coursing of intake or return air through such entries:

(a) The belt haulage entries shall not be used to ventilate, unless such entries are necessary to ventilate, active working places, and

(b) When the belt haulage entries are not necessary to ventilate the active working places, the operator of such mine shall limit the velocity of the air coursed through the belt haulage entries to the amount necessary to provide an adequate supply of oxygen in such entries, and to assure that air therein shall contain less than 1.0 volume per centum of methane.

### § 75.351 Atmospheric monitoring system (AMS).

(a) *Minimum requirements.* An AMS shall consist of sensors to monitor the mine atmosphere and instruments at a surface location designated by the operator to receive information from the monitoring sensors. Each AMS installed in accordance with §§ 75.323(d)(1)(ii), 75.340(a)(2) and 75.362(f) shall do the following:

(1) Monitor for circuit continuity and sensor function, and identify at the

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designated surface location any activated or malfunctioning sensor.

(2) Signal a designated surface location at the mine when any interruption of circuit continuity occurs or any sensor malfunctions.

(3) Signal affected working sections and the designated surface location when—

(i) The carbon monoxide concentration at any carbon monoxide sensor reaches 5 parts per million above the established ambient level for that area; or

(ii) The methane concentration at any methane monitoring station exceeds the maximum allowable concentration as specified for that location in § 75.323.

(4) Activate alarms at a designated surface location and affected working sections when the carbon monoxide concentration at any carbon monoxide sensor reaches 10 parts per million above the established ambient level for the area or when the optical density of smoke at any smoke sensor reaches 0.05 per meter.

(b) *Return splits.* (1) If used to monitor return air splits under § 75.362(f), AMS sensors shall monitor the mine atmosphere for percentage of methane in each return split of air from each working section between the last working place, or longwall or shortwall face, ventilated by that air split and the junction of that return air split with another air split, seal, or worked-out area. If auxiliary fans and tubing are used, the sensor also shall be located outby the auxiliary fan discharge.

(2) If used to monitor air splits under § 75.323(d)(1)(ii), AMS sensors shall monitor the mine atmosphere at the following locations:

(i) In the return air course opposite the section loading point or, if auxiliary fans and tubing are used, in the return air course outby the auxiliary fans and a point opposite the section loading point.

(ii) Immediately inby the location where the split of air meets another split of air, or inby the location where the split of air is used to ventilate seals or worked-out areas.